REMARKS

In the Office Action, the Examiner issued a final rejection of Claims 1-10, which are all of the pending claims, under 35 U.S.C. 103 as being unpatentable over U.S. patent application publication 2002/0062217 (Fujimori) in view of U.S. Patent 6,694,369 (Vepa).

For the reasons set forth below, the rejection of the claims is respectfully traversed, and the Examiner is thus asked to reconsider and to withdraw that rejection and to allow Claims 1-10. Also, Applicants herein ask that editorial changed be made to Claims 1, 5 and 8 to improve the form and readability of these claims.

The rejection of the claims is respectfully traversed because it is believed that the rejection is based on a misinterpretation of the claimed invention. In particular, in rejecting the claims, the Examiner appears to interpret "stable adapter membership group," as set forth in the claims, as the same as a stable node, as shown in the prior art.

In order to best understand this difference and its importance, Applicants believe it may be helpful to review briefly this invention and the prior art.

The present invention, generally, relates to a multimode data processing system in which nodes and/or adapter liveness is communicated throughout the system, preferably via heartbeat messages. Distributed multimode data processing systems of this kind employ these heartbeat messaging protocols to control group membership, which shifts over time. It is control of the membership process to which the present invention is directed. Group membership refers to the list of members in an Adapter Membership Group.

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More particularly, the present invention is concerned with two different scenarios that present potential problems with respect to group membership consistency across the nodes of the system or network. These scenarios are: (1) a node where a liveness daemon is stopped and restarted quickly; and (2) a node whose communications with the rest of the nodes suffers a temporary interruption.

A first embodiment of the present invention addresses this first scenario by detecting the quick restart of liveness daemons in a distributed, multimode data processing system; and a second embodiment of the invention addresses the second scenario by detecting node reachability inconsistencies in the presence of temporary node communication failures or temporary daemon blockage. Both of these embodiments involve sending a message from one node to another indicating that the former node was previously in a stable adapter membership group.

As explained in Applicants' previous Amendment, the concept of a previous stable adapter membership group is totally absent from both Fujimori and Vepa, et al. There is no express reference to a previous state and even more clearly, there is no teaching, disclosure or suggestion in the cited references to the concept of a previous stable membership group.

For example, Fujimori describes a procedure to prevent unauthorized data copying through a communication network. The network is a multimode network and at various times, various modes can be considered stable. There is no disclosure in Fujimori, however, of using a stable adapter membership group as that group is used in the present invention.

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Vepa, et al. discloses a method for detecting reachability of client computers communicatively coupled in a computer network to a server computer. This reference, though, does not address the problem of node failure per se. Vepa, et al. appears to respond to changes in status relating to whether or not the client computer is compliant or not; but not to whether or not the client has failed.

In the Office Action, the Examiner appeared to interpret the word "stable" broadly. In this connection, it should be noted that the relevant feature of the present invention is a "stable adapter membership group (AMG)," and this feature of the invention is specifically explained in the specification. For instance, on page 17 of the specification, it is explained that stable AMGs are those where steady state operations are occurring, while unstable AMGs are those where membership changes are still likely to occur.

Thus, the claim limitation "stable adapter membership group" should be interpreted in light of this explanation in the specification; and, when so interpreted, it is clear that neither Fujimori nor Vepa, et al. disclose the use of this feature in the way in which it is used in the present application.

Each of independent Claims 1, 5 and 8 describe the above-discussed feature of this invention. Specifically, each of these claims describes the feature that when specified conditions are detected at a first or sending node, a message indicating previous memberships of that node in a stable adapter membership group is sent to a recipient node, if that recipient node is part of that stable adapter membership group, and that a group join protocol is initiated in which that message is rejected under specified circumstances.

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Because of the above-discussed differences between Claims 1, 5 and 8 and the prior art, and because of the advantages associated with those differences, these Claims 1, 5 and 8 patentably distinguish over the prior art and are allowable. Claims 2-4 are dependent from Claim 1 and are allowable therewith; and Claims 6 and 7 are dependent from, and are allowable with, Claim 5. Likewise, Claims 8 and 9 are dependent from, and are allowable with Claim 8.

The changes requested to Claims 1, 5 and 8 are of an editorial nature and are believed to improve the form and readability of the claims. For example, these claims are being amended to indicate expressly that the message indicated membership of the first or sending node in the stable adapter membership group. It is thus believed that entry of this Amendment is appropriate, and such entry is respectfully requested.

In light of the above-discussion, the Examiner is asked to enter this Amendment, to reconsider and to withdraw the rejection of Claims 1-10 under 35 U.S.C. 103, and to allow these claims. If the Examiner believes that a telephone conference with Applicants' Attorneys would be advantageous to the disposition of this case, the Examiner is requested to telephone the undersigned.

Respectfully submitted,

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